1473-1-7934 | Rev. 01 | 17.12.2012

Operating Instructions
Busch-Dimmer®

Memory touch dimmer
6560 U-101
6560-101

BUSCH-JAEGER

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1 Safety

Warning

Electric voltage!
Risk of death and fire due to electrical voltage of 230 V.
– Work on the 230V supply system may only be performed by authorised electricians!
– Disconnect the mains power supply prior to installation and/or disassembly!

2 Intended use

The device is to be used exclusively with the components that are supplied and licensed as described in chapter "Setup and function".

3 Environment

Consider the protection of the environment!
Used electric and electronic devices must not be disposed of with domestic waste.
– The device contains valuable raw materials which can be recycled. Therefore, dispose of the device at the appropriate collecting depot.

All packaging materials and devices bear the markings and test seals for proper disposal. Always dispose of the packaging material and electric devices and their components via the authorized collecting depots and disposal companies.
The products meet the legal requirements, in particular the laws governing electronic and electrical devices and the REACH ordinance.
(EU Directive 2002/96/EC WEEE and 2002/95/EC RoHS)
(EU REACH ordinance and law for the implementation of the ordinance (EC) No.1907/2006)

4 Operation

Dimmer operation (flush-mounted construction type)
Operation with clip-on control element (6543-...) directly on the dimmer. Alternatively, operation is also possible via conventional push-buttons 2020 US and 2021/6 UK.

- Briefly touch the operating surface to switch the lighting on or off.
- Pressing the operating surface for a longer period will change the brightness value of the lighting. This process stops when the minimum and maximum brightness value has been reached.
  When switching the lighting off, this value is stored until the next switch-on.

Dimmer operation (MDRC construction type)
Operation is only possible via conventional pus-buttons 2020 US and 2021/6 UK.

5 Technical data

General	
Nominal voltage	230 V AC ±10 %, 50 / 60 Hz, flush-mounted insert 230 V AC ±10 %, 50 Hz, rail mounted device (MDRC)
Nominal power (depending on the ambient temperature, a power loss of 20% in case of conventional transformers needs to be considered)	20 … 500 W / VA
Minimum load	20 VA
Semiconductor switching contact:	Break contact = 0 mm
Overload protection	Temperature limiter
Module width	3 MW (1 MW = 18 mm) applies only to Modular DIN Rail Component (MDRC)
Short-circuit protection	T 3,15 H
Radio interference suppression	According to EN 55015
Total ambient temperature range	0 ...70 °C
Connected load - Ambient temperature range - Ambient temperature range	 0 ... 35 °C connected load 100 % 35 ... 70 °C reduced connected load (Derating)

6 Setup and function

The device is intended for the activation of the following types of loads:

230 V	230 V incandescent lamps
230 V	230 V halogen lamps
	Low-voltage halogen lamps with conventional transformers
R,L	

6.1 Features of function and equipment

- Light storage
- The set brightness value is stored even after switching off the lighting system.
- Phase-angle
- Parallel operation of several transformers and / or incandescent lamps possible.
- Without control element

6.2 Possible combinations

	Flush-mounted
	6560 U-101
6543-7…	X
6543-2…	X
6543-8…	X

	MDRC
	6560-101
2020 US	X
2021/6 UK	X

7 Reduction of the connection load (derating)

The dimmer heats up during operation because part of the connected load is lost and converted into heat. The specified rated power is designed for dimmer installation in a solid masonry wall.
When installing the dimmer in a wall made of gas concrete, wood, or plasterboard, the maximum connection load must be reduced by 20 %.
The connected load must always be reduced when several dimmers are installed one below the other or when other heat sources cause additional heating. In intensely heated-up rooms, the maximum connected load must be reduced according to the diagram.

Use the following formula for the calculation of the nominal power:

Nominal power = transformer losses* + lamp power

* For conventional transformers ~ 20 % of nominal power of transformer

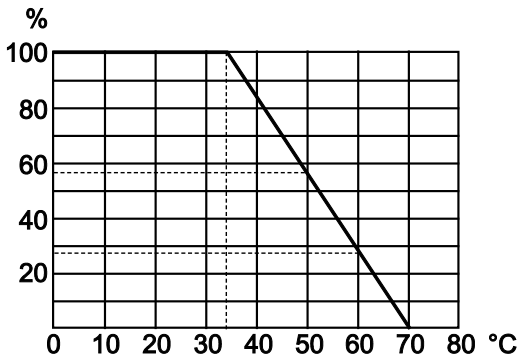

Fig. 1: Derating

Unit	Meaning
%	Nominal power
°C	Ambient temperature

8 Installation and electrical connection

Warning

Electric voltage!
Risk of death due to electrical voltage of 230 V during short-circuit in the low-voltage line.
– Low-voltage and 230 V lines must not be installed together in a flush-mounted socket!

8.1 Requirements for the electrician

Warning

Electric voltage!
Install the device only if you have the necessary electrical engineering knowledge and experience.
- Incorrect installation endangers your life and that of the user of the electrical system.
- Incorrect installation can cause serious damage to property, e.g. due to fire.

The minimum necessary expert knowledge and requirements for the installation are as follows:
- Apply the "five safety rules" (DIN VDE 0105, EN 50110):
  1. Disconnect from power;
  2. Secure against being re-connected;
  3. Ensure there is no voltage;
  4. Connect to earth and short-circuit;
  5. Cover or barricade adjacent live parts.
- Use suitable personal protective clothing.
- Use only suitable tools and measuring devices.
- Check the supply network type (TN system, IT system, TT system) to secure the following power supply conditions (classic connection to ground, protective earthing, necessary additional measures, etc.).

8.2 Mounting

Warning

Electric voltage!
Risk of death and fire due to electrical voltage of 230 V.
– Work on the 230V supply system may only be performed by authorised electricians!
– Disconnect the mains power supply prior to installation and/or disassembly!

The flush-mounted insert must only be installed in flush-mounted wall boxes according to DIN 49073-1, Part 1, or suitable surface-mounted housings.

The MDRC must only be installed on mounting rails according to DIN EN 500022. The MDRC is latched onto the mounting rail.

Caution

Risk of damaging the device due to overheating!
- When using transformers, ensure that each transformer is fused individually on the primary side or with a thermal fuse according to the manufacturer's specifications.
- Use exclusively wound safety isolating transformers according to DIN VDE 61558.

Caution

Risk of damaging the device due to excessive voltages!
Extended operation of an unloaded transformer (e.g. with a faulty bulb) connected to a dimmer may destroy both the transformer and the dimmer. This is caused by a possible voltage rise which may occur between an unloaded transformer and the dimmer.
- Connect at least two incandescent lamps per transformer or at least two transformers per dimmer.
- Replace defective incandescent lamps immediately.

Note on operating transformers with dimmers
To achieve the same linear rise in the brightness level of halogen lamps over the entire adjusting range from bright to dark, transformers with the same secondary voltage and the same power should be used.
When installing, please bear in mind that transformers, depending on their quality and version, may generate humming noise when used with dimmers.
Use an inrush current limiter if excessive inrush currents occur.

8.3 Electrical connection

Note on adapting the connected load to the ambient temperature
In intensely heated rooms, the maximum connected load must be reduced according to the following derating diagram.

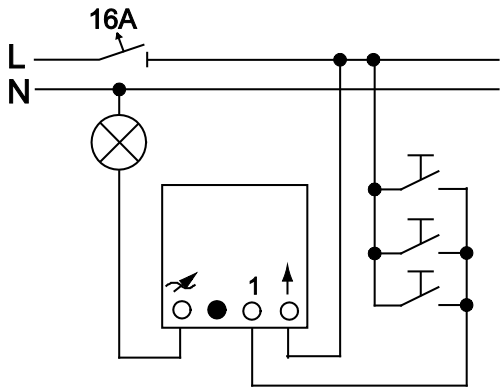

Fig 2: Circuit diagram

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1473-1-7934 | Rev. 01 | 17.12.2012

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